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(54) **GUZMANIA 'ROYALE'**

(71) Applicants: **Elly Bak**, Assendelft (NL); **Nicolaas Steur**, Oude Niedorp (NL)

(72) Inventors: **Elly Bak**, Assendelft (NL); **Nicolaas Steur**, Oude Niedorp (NL)

(73) Assignee: **Corn Bak B.V.** (NL)

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CPC . ***A01H 5/02*** (2013.01); ***A01H 1/02*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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* cited by examiner

Primary Examiner — David H Kruse

(74) *Attorney, Agent, or Firm* — Cassandra Bright

(57) **ABSTRACT**

A new and distinct *Guzmania* hybrid named 'ROYALE' characterized by solid growth habit; funnel-form rosette plant, measuring about 20-25 cm in height (above the pot when flowering); numerous, green color foliage (measuring about 25 to 35 cm length and about 3 cm in width) Superior floral bract production; bracts are orange-red in color (closest to RHS33A), singular head inflorescence, measuring about 9 cm in height and about 15 cm in diameter; and long-lasting habit.

5 Claims, 2 Drawing Sheets
(2 of 2 Drawing Sheet(s) Filed in Color)

Fig. 1

Fig. 2

GUZMANIA 'ROYALE'

FIELD OF THE INVENTION

The present invention relates to a new, distinct and stable hybrid of *Guzmania* hybrid, hereinafter referred to as 'ROYALE'. The present invention relates to seeds which are the *Guzmania* hybrid 'ROYALE', as well as, plants and plant parts produced by these seeds which have all of the morphological and physiological characteristics of the *Guzmania* hybrid 'ROYALE'. The present invention also relates to methods for producing these seeds and plants of the *Guzmania* hybrid 'ROYALE'. Furthermore, the present invention relates to a method of producing progeny *Guzmania* plants by crossing *Guzmania* 'ROYALE', as either the female or seed or male or pollen parent, with another *Guzmania* plant and selecting progeny.

BACKGROUND OF THE INVENTION

The present invention relates to a new, distinct and stable hybrid of *Guzmania* hybrid, and hereinafter referred to by the variety denomination 'ROYALE'. The new *Guzmania* 'ROYALE' originated from a cross made in a controlled breeding program by the inventors in 2010, and then first flowered in 2013, in Assendelft, the Netherlands. The female or seed parent is the *Guzmania lingulata minor* inbred line identified by code 100615392 (unpatented). The male or pollen parent is the *Guzmania lingulata* inbred line identified by code 880209 (unpatented).

Guzmania is a member of the *Bromeliaceae* family. *Guzmania* is predominantly epiphytic with a few terrestrial species and is native to the tropics. For the most part, species vary in diameter from 7 or 8 inches to 3 or 4 feet and have rosettes of glossy, smooth-edged leaves.

Floral bracts of *Guzmania* frequently have brilliant colors and may last for many months. The range of colors for *Guzmania* is generally from yellow through orange but may also include flame red and red-purple. White or yellow, tubular, three-petalled flowers may also appear on a stem or within the leaf rosette but are usually short-lived.

Guzmania may be advantageously grown as pot plants for greenhouse or home use. Typically, the plants are shaded from direct sunlight. During the spring to autumn period, the central vase-like part of the leaf rosette is normally filled with water.

Guzmania is native to tropical America. Leaves of *Guzmania* are usually formed as basal rosettes which are stiff and entire and in several vertical ranks. *Guzmania* plants have terminal spikes or panicles which are often bracted with petals united in a tube about as long as the calyx. The ovary is superior and the seeds plumose.

Asexual propagation of *Guzmania* is frequently performed by vegetative means through the use of tissue culture practices. Propagation of *Guzmania* can also be form offshoots which can be detached from the mother plant and grown in an appropriate soil or bark mixture.

Methods for cultivation and crossing of *Guzmania* are well known. For a detailed discussion, reference is made to the following publications, which are incorporated herein by reference: Benzing, David H., THE BIOLOGY OF THE BROMELIADS, Mad River Press, Inc., Eureka (1980); Zimmer, Karl, BROMELIEN, Verlag, Paul Parey, Berlin (1986); and Ruth, Werner, BROMELIEN, Verlag Eugen Ulmer, Stuttgart (1981).

A *Guzmania* inbred is produced by brother/sister crossing over several generations to produce a genetically homozygous plant selection. A hybrid cultivar is produced by crossing two genetically distinct inbred lines, collecting seeds and plants produced by this method are uniform with respect their morphological and physiological characteristics.

A need exists for a greater variety of *Guzmania* cultivars with attractive ornamental features. Additionally, a need exists for additional *Guzmania* hybrid cultivars that can be easily propagated by seed. The new *Guzmania* 'ROYALE' was developed through a controlled breeding program and exhibits unique, desirable and stable characteristics.

SUMMARY OF THE INVENTION

The present invention provides *Guzmania* plant selections that are solid, small-sized, long-lasting hybrids with superior bract production and orange-red inflorescence that exhibits good keeping quality. The present invention also provides *Guzmania* plants selections with a singular head inflorescence with a unique orange-red color which distinguishes the new cultivar from typical *Guzmania*.

These and other objectives have been achieved in accordance with the present invention which provides 'ROYALE' as new *Guzmania* cultivar that is a product of a planned breeding program conducted by the inventors, Elly Bak and Nico D. M. Steur, in Assendelft, the Netherlands, in 2010. The female or seed parent is the *Guzmania lingulata minor* inbred line identified by code 100615392 (unpatented). The male or pollen parents is the *Guzmania lingulata* inbred line identified by code 880209 (unpatented).

Both parental cultivars have a sufficient degree of homozygosity such that the progeny of the cross are genetypically and phenotypically uniform. The new hybrid 'ROYALE' therefore can be produced by sexual reproduction by crossing the parental inbred lines identified by the codes 100615392 and 880209 to produce a population of progeny plants, each of which has the combination of characteristics as herein disclosed for the new hybrid 'ROYALE'.

Seeds which are the hybrid 'ROYALE' are produced by crossing the parental inbred lines identified by the code 100615392 and 880209, and are deposited with the American Type Culture Collection, 10801 university Boulevard, Manassas, Va. 20110-2209 having deposit Designation PTA-122147.

OBJECTS OF THE INVENTION

The present invention relates to seeds which produce *Guzmania* hybrid 'ROYALE'. The present invention also relates to *Guzmania* plants, and parts thereof, having all the physiological and morphological characteristics of *Guzmania* hybrid 'ROYALE'. The present invention relates to a plant produced from seeds which are *Guzmania* hybrid 'ROYALE'. The present invention also relates to plant parts, such as pollen, seeds or inflorescence produced by *Guzmania* hybrid 'ROYALE'.

The present invention relates to a method of producing seed which are *Guzmania* hybrid 'ROYALE', by a crossing *Guzmania lingulata minor* inbred line identified by code 100615392 (unpatented) as the female or seed parent with *Guzmania lingulata* inbred line identified by code 880209 (unpatented) as the male or pollen parent, harvesting seeds produced from said cross.

The present invention also relates to a method of producing plants having all the physiological and morphological characteristics of the *Guzmania* hybrid 'ROYALE' compris-

ing the steps of (a) crossing *Guzmania lingulata minor* inbred identified by code 100615392 (unpatented) as a female or seed parent with *Guzmania lingulata* inbred line identified by code 880209 (unpatented) as the male or pollen parent. (b) harvesting seeds produced from said cross; and (c) producing plants from solid harvested seeds.

The present invention also relates to producing progeny plants from the cross of *Guzmania* hybrid 'ROYALE', as the female or male parent, with another *Guzmania* plant, and selecting progeny plants from this cross.

BRIEFING DESCRIPTION OF THE PHOTOGRAPHS

The patent or application file contains at least one drawing executed in color. Copies of this patent application publication with color drawings will be provided by the Office upon request and payment of the necessary fees.

The accompanying photographs illustrate the overall appearance of the new *Guzmania* hybrid 'ROYALE' showing the colors as true as reasonably possible with colored reproductions of this type. Colors in the photographs may differ slightly from the color values cited in the detailed botanical description which accurately describes the color of 'ROYALE'.

FIG. **1** shows a side view perspective of the primary and top bracts produced by a typical potted, flowering plant of 'ROYALE'. At 10 months of age from potting size.

FIG. **2** shows a close-up top view perspective of the inflorescence and top bracts produced by a typical potted, flowering plant of 'ROYALE', at 10 months of age from potting size.

DETAILED BOTANICAL DESCRIPTION

The present invention was created by the inventors, Elly Bak and Nicolas D. M. Steur in 2010 and flowered for the first time in 2013 in Assendelft, the Netherlands.

This invention is directed to *Guzmania* plant having all the morphological and physiological characteristics of the hybrid 'ROYALE' produced from seeds which are the product of th4e cross pf the *Guzmania lingulata minor* inbred line identified by code 100615392 (unpatented) as the female or seed parent with the *Guzmania lingulata* inbred line identified by code 880209 (unpatented) as the male or pollen parent. Both parents have a sufficient degree of homozygosity such that the progeny of the cross were, and continue to be. Phenotypically uniform. The new hybrid 'ROYALE' can therefore be produced by sexual reproduction by crossing of the inbred selections identified by the codes 100615392 and 880209 to produce a population of progeny plants, each of which has the combination of characteristics herein disclosed for the new hybrid 'ROYALE'.

The new hybrid 'ROYALE' can also be produced by asexually reproducing progeny from the cross of the parental inbred lines identified by the code 100615392 and 880209. Asexual reproduction of the new cultivar by vegetative means by cuttings was first performed in 2013, in Assendelft, the Netherlands. The first 'ROYALE' plants propagated through the use of such cuttings flowered in 2014, in Assendelft, the Netherlands, and have demonstrated that the new cultivar reproduces true-to-type and that the combination of characteristics as herein disclosed for the new cultivar are firmly fixed and retained through successive generations of asexual reproduction.

BRIEF DESCRIPTION OF THE INVENTION

The following traits have been repeatedly observed and are determined to be unique characteristics of 'ROYALE' which in combination distinguish this *Guzmania* as a new and distinct cultivar:

1. Stemless growth habit;
2. Funnel-form rosette plant, measuring about 20-25 cm in height (above the pot when
flowering);
3. Numerous, green color foliage (measuring about 25-35 cm in length and about 3 cm in
Width.
4. Superior floral bract production;
5. Bracts are orange-red in color (closest to RHS 33A)
6. Singular head inflorescence, measuring about 9 cm in height, when flowering and about 15 cm in diameter.
7. Long-lasting habit.

Of the many commercial cultivars known to the present inventors, the most similar in comparison to the new *Guzmania* hybrid is the *Guzmania* cultivar 'RITMO' U.S. Pat. No. 7,851,678. Plants of the new hybrid 'ROAYLE' differ from plants of 'RITMO' primarily in color of the inflorescence.

'ROYALE' has not been tested and observed under all possible environmental conditions. The phenotype pf the new cultivar may vary with variations in environment such as temperature, light intensity, frequency of fertilization, composition fertilizer, flowering treatment, day length and humidity, without any change in the genotype of plant.

For example, substantial differences in plant height and diameter, number of leaves, can result depending on the size of the plant at the time that flowering is induced by flowering treatment. Since treatment to induce flowering disrupts normal watering and fertilization regimens. Flowering treatment of relatively smaller plants adversely affects the growth of the plant.

The aforementioned photographs, together with the following observations, measurements and values describe the new *Guzmania* 'ROYALE'^{oo} as grown in a greenhouse in Assendelft, the Netherlands, under conditions which closely approximate those generally used in commercial practice. Plants of 'ROYALE' were grown in a greenhouse with day temperatures ranging from 20° C. to 28° C. and night temperatures ranging from 18° C. to 23° C. No artificial lighting or photoperiodic treatments were conducted, but plants of 'ROYAL' are forced into flowering. The flowering fertilizer is added when growing plants of 'ROYALE'; 1 part nitrogen, 0.6 parts phosphor, 2 parts Kalium and 0.1 parts magnesium.

Color references are made to the Royal Horticultural Society Colour Chat (RHS), 2001 edition, except where general colors of ordinary significance are used. Color values were taken under daylight conditions in a greenhouse in Assendelft, the Netherlands. The age of the plants of 'ROYALE' described is about 12 weeks after flowering treatment.

Classification

Botanical: *Guzmania* hybrid

Parentage:

Female parent: *Guzmania lingulata minor* inbred line identified by code 100615392
(unpatented)

Male parent: *Guzmania lingulata* inbred line identified by code 880209 (unpatented)

Plant:
General Appearance and Form:
Height: About 20-25 cm (when flowering)
Width: About 40-45 cm
Shape: Funnel form rosette
Growth habit: Stemless
Plant vigor: Good
Flowering Season: A fully grown plant can flower year round, starting 12 weeks after
Induction of natural light or through flowering treatment.
Cold Tolerance: Frost tender. Temperature below 5° C. may damage plants.
Fragrance: None
Foliage
Quantity: About 18 (depending on the size of the plant)
Size of Leaf:
Length: About 25 cm to 35 cm (when flowering)
Width: About 3 cm
Overall Shape: Linear lanceolate
Apex Shape: Acuminate
Base Shape: Strap-like around central axis
Margin: Entire
Texture: Smooth
Orientation: Leaf blades arch continuously from base.
Color: Leaf color can vary somewhat depending on growing conditions.
Immature and Mature:
Upper surface: green, closest to RHS 137A
Under surface: green, closest to RHS 137A
Venation: None
Inflorescence:
Borne: Erect
Shape: Compound
Size:
Length: About 9 cm in height when flowering
Diameter: About 15 cm
Time of Bloom: A fully grown plant can produce an inflorescence containing about 30
flowers (depending on the size of the plants), and can bloom the whole
Year starting about 12 weeks after natural induction or through flowering
treatment.
Duration of Bloom: Each flower blooms one (1) day and the total blooming of the whole Inflorescence is about 5 weeks.
Petals:
Number: 3 per flower
Length: About 5.5 cm
Width: About 0.6 cm
Overall Shape: Ligulate
Apex Shape: Obtuse
Base Shape: Fused
Color:
Upper and under surfaces: yellow with a white tip, closest to RHS 15A
and RHS 155D
Sepals:
Number: 3 per flower
Length: About 2 cm
Width: About 0.4 cm
Overall Shape: Ligulate
Apex Shape: Acute
Base Shape: Fused
Color:
Upper and under surfaces: Translucent
Bracts:
Scape Bracts:
Quantity: About 8
Arrangement: Alternate
Size:
Length: About 25 cm (lowest) to about 10 cm (scape bracts positioned
Just below the primary bracts).
Width: About 2.5-3 cm
Overall Shape: Linear lanceolate
Apex Shape: Acute
Base Shape: Fused
Margin: Entire
Texture: Smooth
Upper and under surfaces:
Scape bracts are green, closest to RHS 137C with orange-red closest to
RHS 35B.
Primary Bracts:
Quantity: About 14
Arrangement: Alternate:
Size:
Length: About 10 cm (lowest) to about 6 cm (primary bracts become
shorter closer to the top of plant)
Width: About 2 cm to 3 cm
Overall Shape: Recurved and ovate-lanceolate
Apex Shape: Acute
Base Shape: Fused
Margin: Entire
Texture: Smooth
Color:
Upper and under surfaces: orange-red, closest to RHS 33A
Floral bracts: Disposed within the inflorescence
Reproductive Organs:
Androecium:
Stamen:
Number: 6 per flower
Length: About 4.5 cm
Diameter: About 1 mm
Color: Cream, too small to distinguish RHS value
Anther:
Length: About 0.6 cm
Color: Cream, too small to distinguish RHS value
Pollen:
Amount: Scarce
(too small to distinguish RHS value)
Gynoecium:
Pistil:
Number: 1 per flower
Length: About 5.2 cm
Stigma:
Shape: 3-parted
Width: About 2 mm
Color: White, too small to distinguish RHS value
Style:
Length: About 4.5 cm
Color: Cream, too small to distinguish RHS value
Ovary:
Position: Superior
Shape: Conical
Length: About 0.6 cm
Diameter: About 0.3 cm
Color: Light green, closest to RHS 144D

Seeds:
Quantity: About 4000 seeds per plant, divided among about 20 capsules (depending on the size of the plant). The seeds produces by the plant cannot be used for reproduction.
Size:
Length: About 4 mm
Diameter: About <1 mm
Texture: Plumose
Color: Greyed-orange, too small to qualify RHS value
Fruit:
Quantity: About 20 (depending on size of plant)
Type: Capsule
Texture: Corded
Color at Maturity: Greyed-range, closest to RHS 165A
Size:
Length: About 3.5 cm
Diameter: About 0.6 cm

Disease/Pest Resistance/Susceptibility: Neither Resistance Nor susceptibility observed to date.

We claim:

1. A *Guzmania* plant named 'ROYALE', representative seed deposited at the American Type Culture Collection (ATCC) having deposit Designation PTA-12247.

2. A *Guzmania* seed that produces the plant of claim **1**.

3. A plant part obtained from the *Guzmania* plant of claim **1**.

4. A method of producing *Guzmania* progeny plant comprising the steps of (a) crossing *Guzmania* 'ROYALE' produced from seed deposited with American Type Culture Collection (ATCC) Patent Deposit having deposit Designation PTA-1222348 as a female or male parent with a second *Guzmania* plant, and (b) selecting progeny.

5. The method according to claim **4**, wherein the second *Guzmania* plant is 'ROYALE'.

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